International Journal of Women's Health

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ORIGINAL RESEARCH

WaLIDD score, a new tool to diagnose dysmenorrhea and predict medical leave in university students

This article was published in the following Dove Press journal:
International Journal of Women's Health

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Background: Dysmenorrhea is a frequent and misdiagnosed symptom affecting the quality of life in young women. A working ability, location, intensity, days of pain, dysmenorrhea (WaLIDD) score was designed to diagnose dysmenorrhea and to predict medical leave.

Methods: This cross-sectional design included young medical students, who completed a self-administered questionnaire that contained the verbal rating score (VRS; pain and drug subscales) and WaLIDD scales. The correlation between scales was established through Spearman test. The area under the receiver operating characteristic (ROC) curve, sensitivity, specificity, and likelihood ratio (LR +/−) were evaluated to diagnose students availing medical leave due to dysmenorrhea; moreover, to predict medical leave in students with dysmenorrhea, a binary logistic regression was performed.

Results: In all, 585 students, with a mean age of 21 years and menarche at 12 years, participated. Most of them had regular cycles, 5 days of menstrual blood flow and 1–2 days of lower abdominal pain. The WaLIDD scale presented an adequate internal consistency and strong correlation with VRS subscales. With a cutoff of >6 for WaLIDD and 2 for VRS subscales (drug subscale and pain subscale) to identify students with dysmenorrhea, these scales presented an area under the curve (AUC) ROC of 0.82, 0.62, and 0.67, respectively. To identify students taking medical leave due to dysmenorrhea, WaLIDD (cutoff >9) and VRS subscales (cutoff >2) presented an AUC ROC of 0.97, 0.68, and 0.81; moreover, the WaLIDD scale showed a good LR +14.2 (95% CI, 13.5–14.9), LR −0.00 (95% CI, undefined), and predictive risk (OR 5.38; 95% CI, 1.78–16.2).

Conclusion: This research allowed a comparison between two multidimensional scales regarding their capabilities, one previously validated and a new one, to discriminate among the general population of medical students, among those with dysmenorrhea or those availing medical leave secondary to dysmenorrhea. WaLIDD score showed a larger effect size than the pain and drug score in the students. In addition, this study demonstrated the ability to predict this combination of events.

Keywords: dysmenorrhea, sick leave, diagnosis, medical students, clinical decision making

Background

Dysmenorrhea is a symptom that relates to several diagnosis of pelvic pain; it is manifested prior to the menstrual period and occasionally extends ≥72 hours after its completion. Dysmenorrhea appears up to 6–12 months after menarche, affecting primarily young women, often those in university or occupational activity. During this stage of life, it is known as primary dysmenorrhea (PD) and is usually due to physiological causes, which have been linked to nutritional disorders, menstrual cycle irregularities, menarche before the age of 12, excessive menstruation, and other factors

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http://dx.doi.org/10.2147/IJWH.S143510